United Nations

Framework Convention on Climate Change

FCCC/SBI/2016/19

Distr.: General
2 November 2016

Original: English

Subsidiary Body for Implementation
Forty-fifth session
Marrakech, 7–14 November 2016

Item 3(d) of the provisional agenda
Reporting from and review of Parties included in Annex I to the Convention
Report on national greenhouse gas inventory data from Parties included in Annex I to the Convention for the period 1990–2014

National greenhouse gas inventory data for the period 1990–2014

Report by the secretariat*

Summary

Forty-two Parties included in Annex I to the Convention (Annex I Parties) submitted their greenhouse gas (GHG) inventory common reporting format (CRF) tables and national inventory reports (NIRs) in 2016. By the deadline of 15 April 2016, CRF tables from 38 Parties and NIRs from 33 Parties had been received. Over the period 1990–2014, total aggregate GHG emissions without emissions and removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties decreased by 11.3 per cent, while total GHG emissions and removals with LULUCF decreased by 15.8 per cent. For Annex I Parties with economies in transition, GHG emissions without and with LULUCF decreased by 37.2 per cent and 47.0 per cent, respectively. For Annex I Parties that do not have economies in transition, GHG emissions without and with LULUCF increased by 1.4 per cent and 0.7 per cent, respectively. The information in this document is based on information in the national GHG inventory submissions of Annex I Parties received as at 16 September 2016. At the time of the publication of this document, the annual review process for GHG inventories from Annex I Parties was still ongoing; therefore, the data included in this document may not reflect the latest information provided by Parties. The latest GHG inventory data are available on the UNFCCC website.

* This document was submitted after the due date in order to take into account the latest submissions from Parties.

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I. Introduction

A. Mandate

1. The Conference of the Parties (COP), by decision 24/CP.19, requested Parties included in Annex I to the Convention (Annex I Parties) to submit national inventory data on greenhouse gas (GHG) emissions by sources and removals by sinks by 15 April each year. By decision 13/CP.20, paragraphs 8 and 10, the COP requested the secretariat to compile and summarize information on GHG inventory data submitted by Annex I Parties, inter alia, for consideration by the COP and the subsidiary bodies.

B. Scope of the note

2. This document shows the status of reporting of GHG inventories by Annex I Parties in 2016 (chapter II) and provides a summary of the latest available data on GHG emissions and removals for the period 1990–2014 (chapter III). Data are provided for carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), as well as for hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), unspecified mix of HFCs and PFCs (MIX) and nitrogen trifluoride (NF_3) taken together, and, where Parties have elected to report them, indirect CO_2 emissions from the atmospheric oxidation of CH_4, carbon monoxide and non-methane volatile organic compounds. Data are provided on total[1] aggregate[2] GHG emissions, both without and with net GHG emissions and removals from land use, land-use change and forestry (LULUCF).

3. The information provided in this document is based on information in the national GHG inventories received from 42 Annex I Parties (see table 1) as at 16 September 2016.

4. At the time of the publication of this document, the annual review process for GHG inventories from Annex I Parties was still ongoing; therefore, the data presented here may not reflect the latest information provided by Parties. The latest GHG inventory data are available on the UNFCCC website.[3]

C. Possible action by the Subsidiary Body for Implementation

5. The Subsidiary Body for Implementation may wish to take note of the information contained in this document and seek further guidance from the COP, as appropriate.

II. Status of reporting

A. Timeliness and completeness of submissions

6. According to the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on

[1] The term "total" implies that emissions from the sectors of the common reporting format are summed; the inclusion of emissions from land use, land-use change and forestry in the sum is indicated separately; unless stated otherwise, totals do not include indirect CO2 emissions.

[2] The term "aggregate" implies that GHG emissions and removals are calculated as a weighted sum of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, MIX and NF_3 using the global warming potential values agreed under the Convention.

[3] <http://unfccc.int/9492.php>.

annual greenhouse gas inventories" (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines),[4] Annex I Parties are required to submit annually a national inventory report (NIR) and common reporting format (CRF) tables containing data from the base year up to two years prior to the year of submission. In 2016, 42 Annex I Parties provided GHG data for all years from 1990[5] to 2014.

7. By 15 April 2016, CRF tables had been received from 37 Parties and NIRs had been received from 33 Parties. Within six weeks after 15 April 2016, a total of 40 Parties[6] had submitted their CRF tables and 39 Parties had submitted their NIRs. The dates of the initial submissions of the CRF tables are shown in table 1.

Table 1
Greenhouse gas inventory submissions from Annex I Parties in 2016

Party	*CRF tables submission date*[a]	*Party*	*CRF tables submission date*[a]
Australia	*27 May 2016*	Liechtenstein	15 April 2016
Austria	14 April 2016	Lithuania	15 April 2016
Belarus	*10 June 2016*	Luxembourg	15 April 2016
Belgium	15 April 2016	Malta	14 April 2016
Bulgaria	15 April 2016	Monaco	
Canada	14 April 2016	Netherlands	15 April 2016
Croatia	15 April 2016	New Zealand	*20 May 2016*
Cyprus	13 April 2016	Norway	15 April 2016
Czechia	15 April 2016	Poland	15 April 2016
Denmark	15 April 2016	Portugal	15 April 2016
Estonia	15 April 2016	Romania	15 April 2016
European Union	15 April 2016	Russian Federation	15 April 2016
Finland	15 April 2016	Slovakia	15 April 2016
France	15 April 2016	Slovenia	15 April 2016
Germany	15 April 2016	Spain	15 April 2016
Greece	15 April 2016	Sweden	15 April 2016
Hungary	15 April 2016	Switzerland	15 April 2016
Iceland	15 April 2016	Turkey	15 April 2016
Ireland	*15 June 2016*	Ukraine	*24 May 2016*
Italy	15 April 2016	United Kingdom	15 April 2016
Japan	14 April 2016	United States	15 April 2016
Latvia	15 April 2016		

Abbreviation: CRF = common reporting format.

[a] Dates after 15 April 2016 are shown in italics. The dates of submission of the national inventory reports may be different. Blank cells indicate that no submission had been received as at 16 September 2016.

[4] Decision 24/CP.19, annex I.

[5] Unless otherwise specified, for certain Parties base year data are used instead of 1990 data. The Parties that may use a base year other than 1990, as stipulated in decisions 9/CP.2 and 11/CP.4, provided data for their respective base years. Such Parties and their base years are Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

[6] When making their submissions, some Parties referred to technical problems that they encountered with the reporting software. In decision 20/CP.21, the COP noted that the CRF Reporter was not yet fully functioning.

8. After the initial submissions, 36 Parties submitted revised versions of their CRF tables and 31 Parties resubmitted their NIRs.

B. Recalculations

9. According to the UNFCCC Annex I inventory reporting guidelines, Parties should, where necessary, conduct recalculations in order to improve the quality of their emission estimates and ensure the consistency of the time series.

10. In 2016, 39 Annex I Parties[7] reported recalculations that had an impact on their estimated GHG emissions for 1990 (see table 2). The recalculations resulted from changes in activity data, emission factors and methodologies. For total aggregate GHG emissions without LULUCF, the change was less than 1 per cent for 29 Parties and more than 3 per cent for 4 Parties. For total aggregate GHG emissions with LULUCF, the change was less than 1 per cent for 24 Parties and more than 3 per cent for 7 Parties.

Table 2
Inventory recalculations by Annex I Parties in 2016

Party	*Impact on GHG emissions for 1990 without LULUCF (%)*[a]	*Impact on GHG emissions for 1990 with LULUCF (%)*[a]
Australia	–2.3	2.9
Austria	0.2	0.5
Belarus		
Belgium	–0.7	–0.8
Bulgaria	–5.1	–6.6
Canada	0.0	0.1
Croatia		
Cyprus	2.4	2.7
Czechia	1.0	1.0
Denmark	–0.5	–1.2
Estonia	–0.2	–1.7
European Union	–0.4	–0.3
Finland	0.0	–0.4
France	–0.6	0.7
Germany	–0.1	0.0
Greece	–0.2	–0.1
Hungary	–0.1	0.9
Iceland	–5.6	–1.4
Ireland	–1.0	1.8
Italy	0.2	0.0
Japan	0.0	0.0
Latvia	0.3	3.2
Liechtenstein	–0.2	–0.2
Lithuania	–1.3	–0.7
Luxembourg	–0.1	–2.2

[7] In Switzerland's GHG inventory, recalculations showed identical values to previous estimates. Recalculations for Belarus, Croatia and Monaco (without and with LULUCF) were not available.

Party	*Impact on GHG emissions for 1990 without LULUCF (%)*[a]	*Impact on GHG emissions for 1990 with LULUCF (%)*[a]
Malta	0.0	0.0
Monaco		
Netherlands	0.9	1.1
New Zealand	–1.3	–3.1
Norway	–0.2	–0.1
Poland	–0.2	–0.5
Portugal	0.1	0.0
Romania	2.2	2.4
Russian Federation	0.0	–0.9
Slovakia	–1.7	–1.8
Slovenia	0.5	–5.3
Spain	–1.7	–2.5
Sweden	0.1	13.0
Switzerland	0.0	0.0
Turkey	–4.8	–5.6
Ukraine	3.6	5.7
United Kingdom	–0.9	–1.4
United States	2.1	0.3

Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.
[a] Blank cells indicate that recalculations were not available.

11. Total aggregate GHG emissions for Annex I Parties were not presented in the 2015 report on GHG data[8] because submissions had been received from only 30 Parties.[9] Thus, it was not possible to carry out the following:

(a) A comparison of estimates reported in 2015 and 2016 of the total aggregate GHG emissions of Annex I Parties in 1990;

(b) A comparison of the changes in the total aggregate GHG emissions from 1990 to the latest available year of Annex I Parties reported in 2015 and 2016.

III. Overview of emission trends and sources in Annex I Parties

A. Total aggregate greenhouse gas emissions

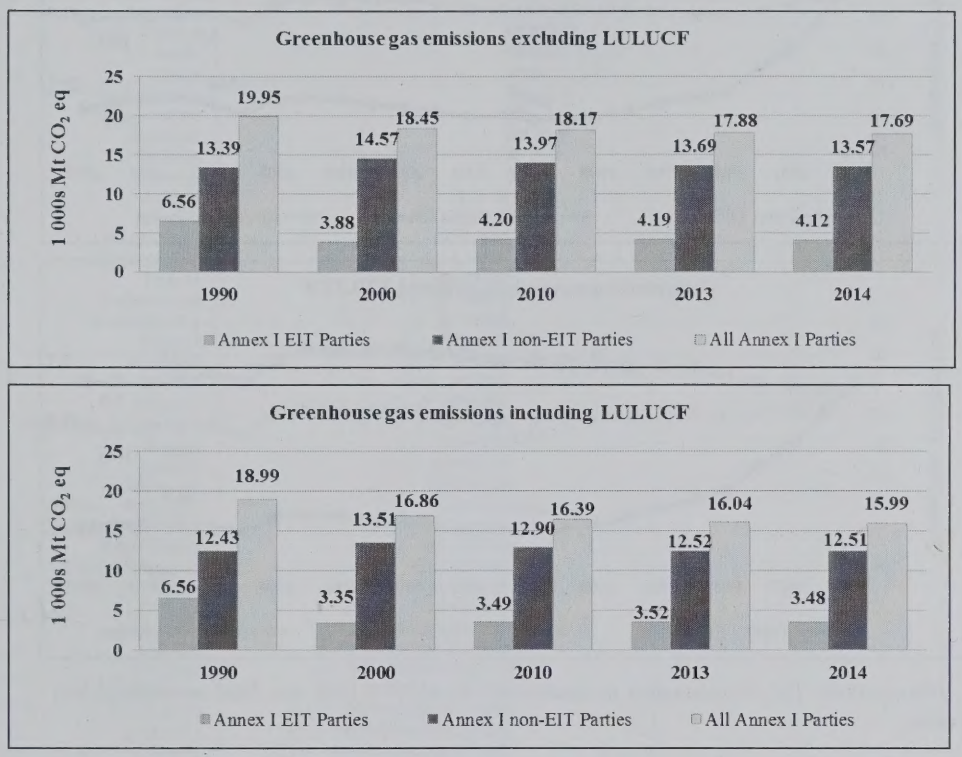
12. Figures 1 and 2 show the trends in total aggregate GHG emissions from 1990 to 2014 for all Annex I Parties taken together, for Annex I Parties with economies in transition (Annex I EIT Parties) and for Annex I Parties that do not have economies in transition.

13. From 1990 to 2014, total aggregate GHG emissions without emissions and removals from LULUCF for all Annex I Parties decreased by 11.3 per cent, from 19,949.10 Mt CO_2 eq to 17,689.61 Mt CO_2 eq. During the same period, total aggregate GHG emissions with

[8] FCCC/SBI/2015/21.
[9] This was due to a delay in the availability of the CRF Reporter. In accordance with decision 13/CP.20, Annex I Parties may submit their CRF tables after 15 April in 2015, but no later than the corresponding delay in the CRF Reporter availability.

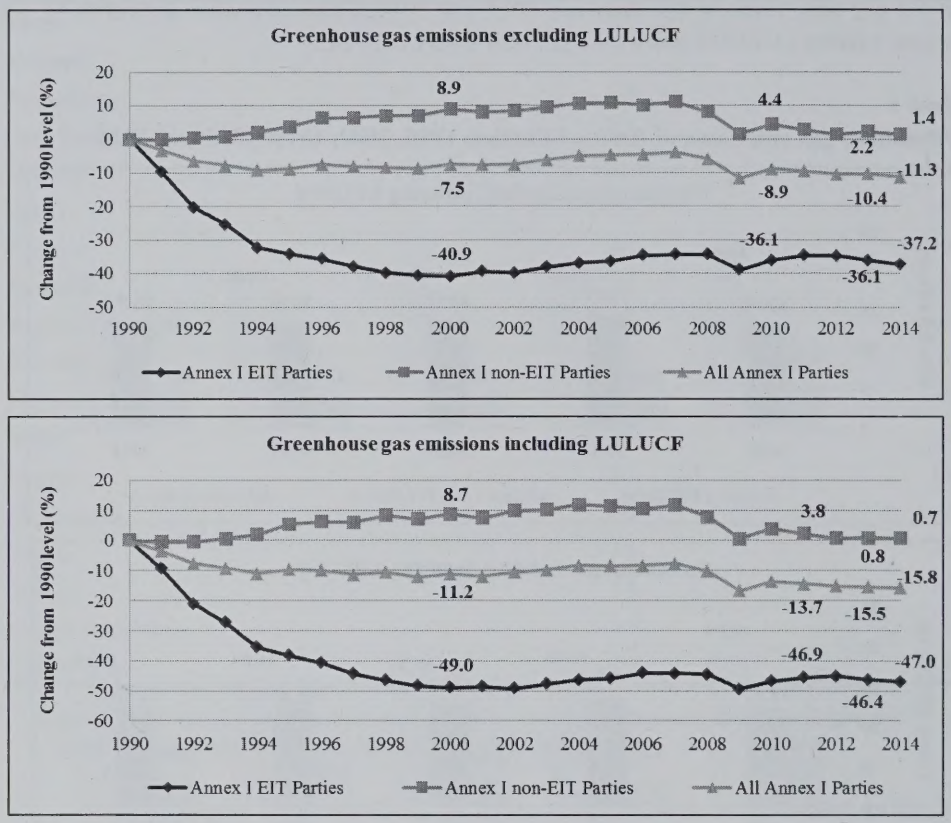
LULUCF decreased by 15.8 per cent, from 18,988.41 Mt CO_2 eq to 15,989.76 Mt CO_2 eq. From 2000 to 2014, GHG emissions without and with LULUCF decreased by 4.1 per cent and 5.2 per cent, respectively. Between 2013 and 2014, GHG emissions decreased by 1.0 per cent without LULUCF and by 0.3 per cent with LULUCF.

Figure 1
Greenhouse gas emissions of Annex I Parties, 1990, 2000, 2010, 2013 and 2014



Abbreviations: EIT = economies in transition, LULUCF = land use, land-use change and forestry.

Figure 2
Changes in greenhouse gas emissions of Annex I Parties, 1990–2014



Abbreviations: EIT = economies in transition, LULUCF = land use, land-use change and forestry.

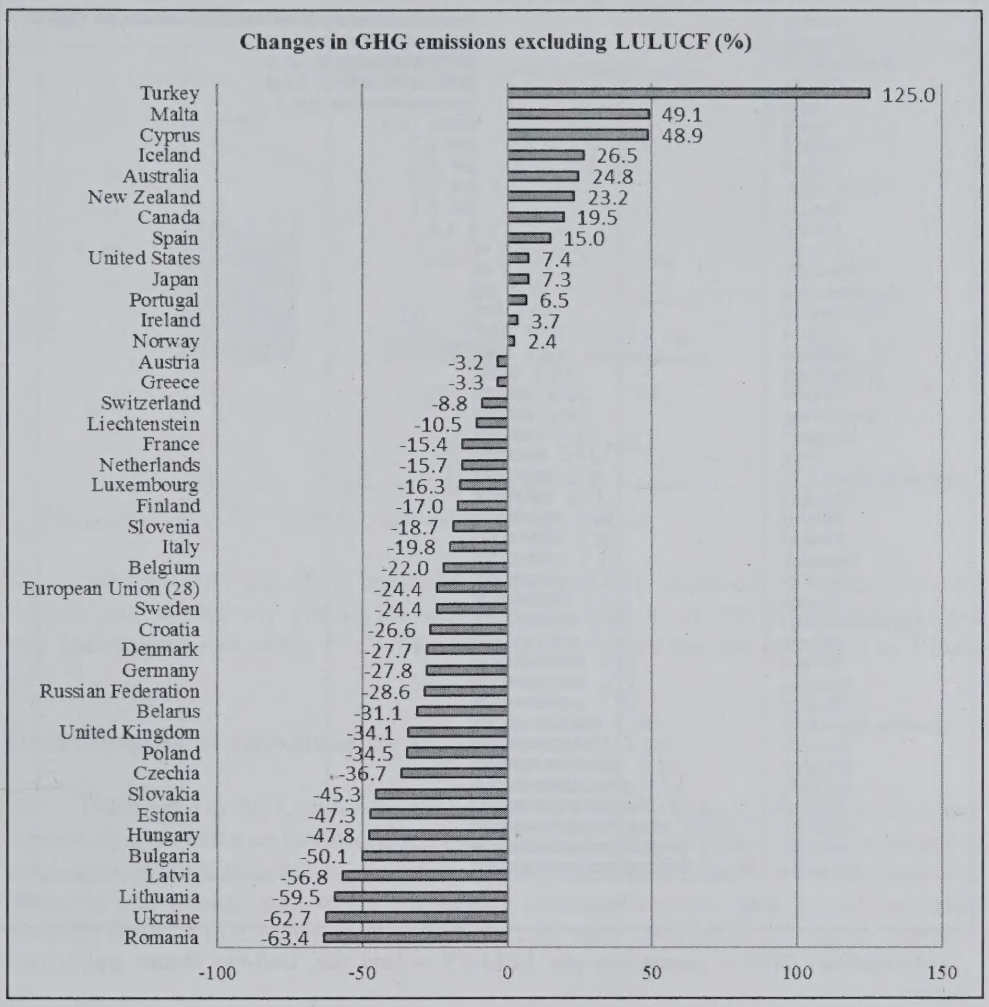
14. For Annex I EIT Parties, GHG emissions from 1990 to 2014 decreased by 37.2 per cent without LULUCF and by 47.0 per cent with LULUCF. From 2000 to 2014, GHG emissions without and with LULUCF increased by 6.2 per cent and 3.9 per cent, respectively. Between 2013 and 2014, GHG emissions decreased by 1.7 per cent without LULUCF and by 1.2 per cent with LULUCF.

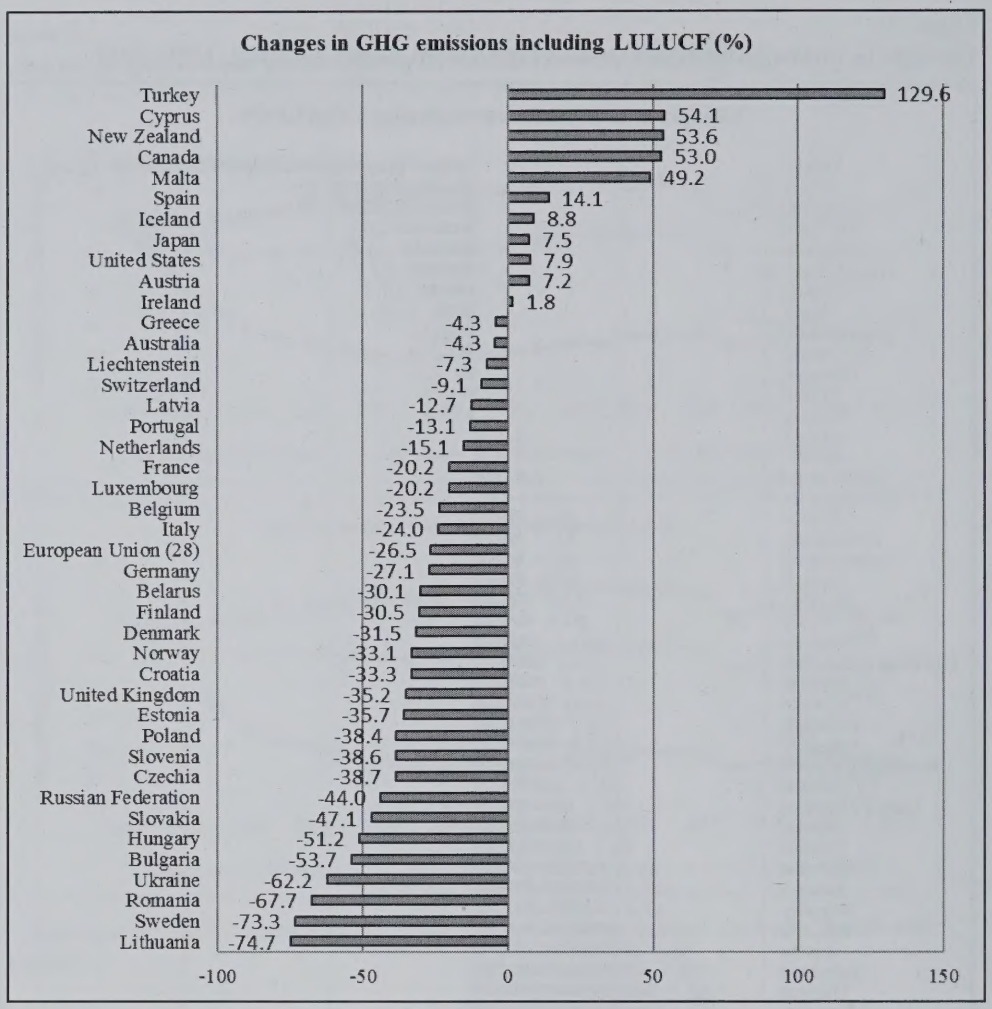
15. For Annex I Parties that do not have economies in transition, from 1990 to 2014 GHG emissions increased by 1.4 per cent without LULUCF and by 0.7 per cent with LULUCF. From 2000 to 2014, GHG emissions without and with LULUCF decreased by 6.9 per cent and 7.4 per cent, respectively. Between 2013 and 2014, GHG emissions showed a decrease of 0.8 per cent without LULUCF and of 0.1 per cent with LULUCF.

16. The changes in total aggregate GHG emissions over the period 1990–2014 varied considerably among Parties (see figure 3). The largest decrease in emissions without LULUCF was in Romania (by 63.4 per cent), while the largest decrease in emissions with LULUCF was in Lithuania (by 74.7 per cent). On the other hand, the greatest increase in emissions without and with LULUCF was in Turkey (by 125.0 per cent and 129.6 per cent, respectively).

Figure 3

Changes in total aggregate emissions of individual Annex I Parties, 1990–2014





Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

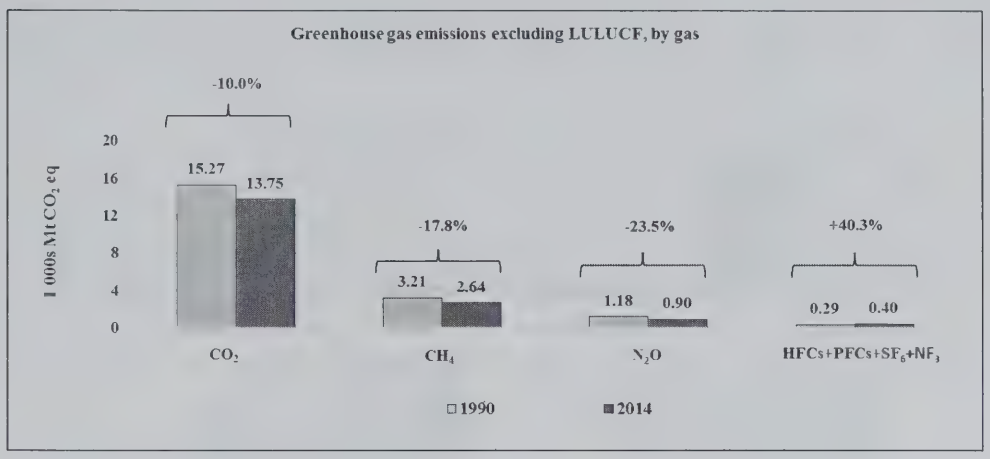
B. Greenhouse gas emissions by gas

17. Throughout the period 1990–2014, CO_2 accounted for the largest share of total emissions, contributing 76.6 per cent in 1990 and 77.7 per cent in 2014. CH_4 was the second-highest contributor to total GHG emissions (16.1 per cent in 1990 and 14.9 per cent in 2014), followed by N_2O (5.9 per cent in 1990 and 5.1 per cent in 2014). The emissions of HFCs, PFCs, SF_6, MIX and NF_3 taken together contributed less than 2.5 per cent of the total GHG emissions in both years.

18. Figure 4 shows the contribution of each GHG to the total emissions without LULUCF for 1990 and 2014 and the changes in the total emissions of each GHG over the period 1990–2014. Emissions of CO_2, CH_4 and N_2O decreased, while emissions of HFCs, PFCs, SF_6, MIX and NF_3 taken together increased by 40.3 per cent.

Figure 4

Greenhouse gas emissions excluding land use, land-use change and forestry of Annex I Parties by gas, 1990 and 2014



Abbreviation: LULUCF = land use, land-use change and forestry.

19. Between 2013 and 2014, emissions of CO_2 and CH_4 decreased by 1.4 per cent and 0.3 per cent, respectively. During the same period, emissions of N_2O increased by 0.1 per cent and emissions of HFCs, PFCs, SF_6, MIX and NF_3 taken together increased by 2.9 per cent.

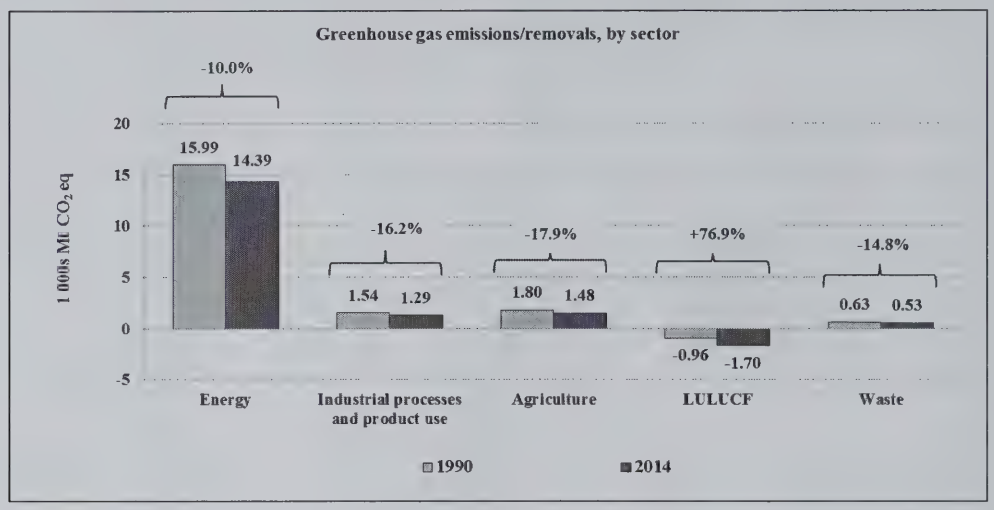
C. Greenhouse gas emissions by sector

20. From 1990 to 2014, emissions from the energy, industrial processes and product use, agriculture and waste sectors decreased (see figure 5). The agriculture sector experienced the largest relative decrease in emissions (by 17.9 per cent), followed by the industrial processes and product use, waste and energy sectors. Over the same period, net GHG removals from LULUCF increased by 76.9 per cent, from –960.69 Mt CO_2 eq to –1,699.85 Mt CO_2 eq.

21. Between 2013 and 2014, emissions from the energy sector decreased by 1.4 per cent. Emissions from the industrial processes and product use, agriculture and waste sectors increased by 0.6 per cent, 0.3 per cent and 0.3 per cent, respectively. Net GHG removals from LULUCF decreased by 7.3 per cent.

Figure 5

Greenhouse gas emissions and removals of Annex I Parties by sector, 1990 and 2014[a]



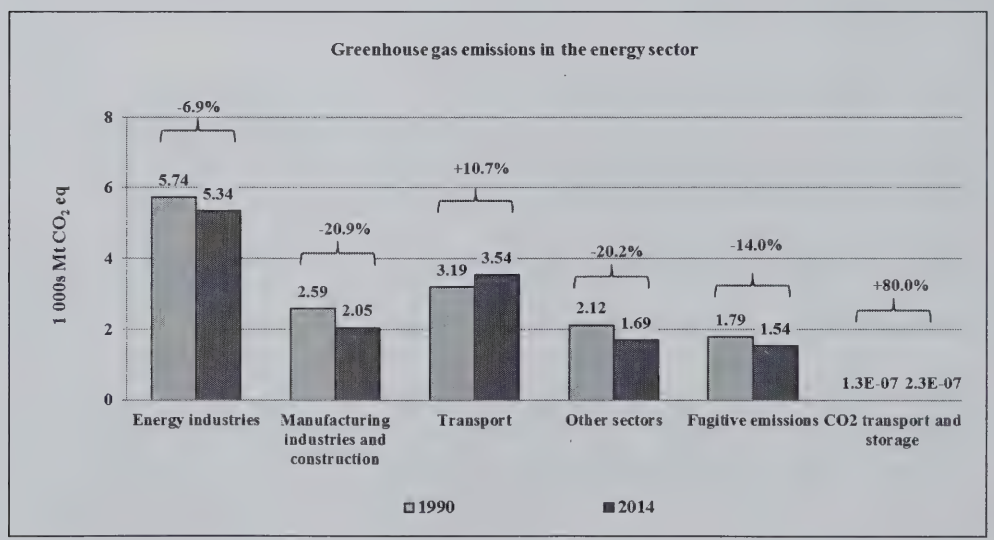
Abbreviation: LULUCF = land use, land-use change and forestry.

[a] The sector other is not included in this figure because its contribution to the total GHG emissions is very small. The emissions from this sector decreased by 27.2 per cent between 1990 and 2014.

22. Within the energy sector, from 1990 to 2014, GHG emissions decreased in all subsectors except transport and CO_2 transport and storage, where emissions increased by 10.7 per cent and 80.0 per cent, respectively (see figure 6). The largest relative emission reduction occurred in manufacturing industries and construction (where emissions decreased by 20.9 per cent).

Figure 6

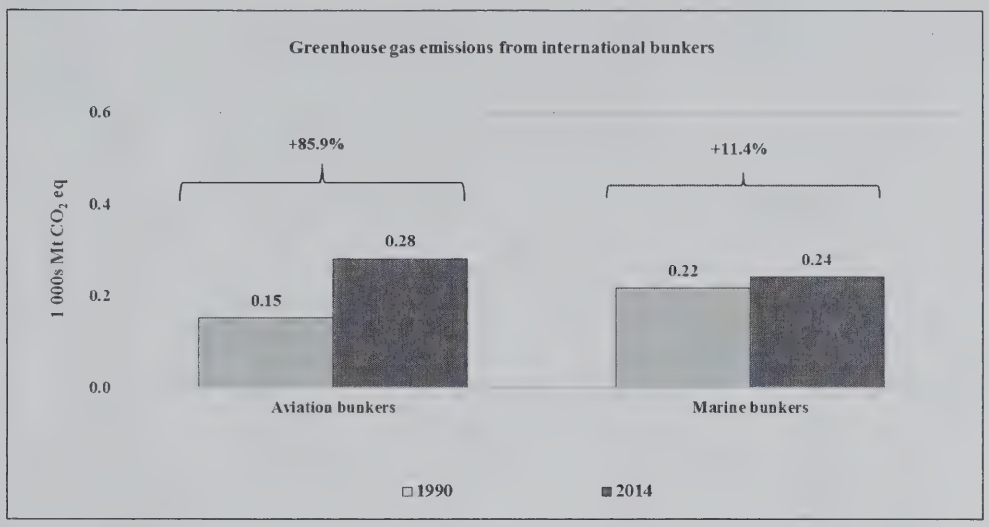
Greenhouse gas emissions of Annex I Parties in the energy sector, 1990 and 2014



23. Between 2013 and 2014, emissions from all energy subsectors, except CO_2 transport and storage (namely energy industries, manufacturing industries and construction, transport, fugitive emissions and other sectors) decreased.

24. Over the period 1990–2014, emissions from international bunkers increased, by 85.9 per cent for aviation and by 11.4 per cent for navigation (see figure 7).

Figure 7
Greenhouse gas emissions from international bunker fuels for Annex I Parties, 1990 and 2014



25. Between 2013 and 2014, emissions from international bunkers increased, by 2.9 per cent for aviation and by 3.9 per cent for navigation.

D. Emission data for individual Annex I Parties

26. Tables 3–15 show detailed GHG data for individual Annex I Parties. Total aggregate GHG emissions without and with emissions and removals from LULUCF are provided in tables 3 and 4; emissions of CO_2, CH_4 and N_2O (without and with emissions and removals from LULUCF) are provided in tables 5–10; emissions of HFCs, PFCs, SF_6, MIX and NF_3 taken together are provided in table 11; emissions and removals from LULUCF are provided in tables 12–14; and indirect CO_2 emissions are provided in table 15.

27. Blank cells in the tables denote that either data were not available or notation keys, such as "NO" (not occurring), "NE" (not estimated), "NA" (not applicable), "IE" (included elsewhere) or "C" (confidential), were used to report emission data. Negative values denote removals; positive values denote emissions.

28. The changes in emissions from 1990 to 2014 were calculated using the exact (not rounded) values and may therefore differ from a ratio calculated with the rounded numbers provided in the tables. An en dash (–) signifies a percentage change exceeding 10,000 per cent.

Table 3

Total aggregate anthropogenic emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, MIX and NF_3 without emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

	kt CO_2 eq					*Change from 1990*
Party	*1990*	*2000*	*2010*	*2013*	*2014*	*to 2014 (%)*
Australia	418 623	483 446	533 917	526 883	522 397	24.8
Austria	78 845	80 429	84 946	80 043	76 333	–3.2
Belarus[a]	133 457	77 960	91 184	93 037	91 896	–31.1
Belgium	146 021	149 213	133 258	119 375	113 867	–22.0
Bulgaria[a, b]	114 578	58 265	59 820	54 946	57 197	–50.1
Canada	612 866	744 241	706 403	731 424	732 419	19.5
Croatia[a]	31 205	25 173	27 280	23 771	22 899	–26.6
Cyprus	5 638	8 339	9 521	7 963	8 394	48.9
Czechia[a]	195 345	147 993	137 687	128 390	123 651	–36.7
Denmark	70 246	70 131	62 944	54 984	50 785	–27.7
Estonia[a]	39 965	17 062	19 912	21 677	21 059	–47.3
European Union[c]	5 656 504	5 161 669	4 775 529	4 463 078	4 278 052	–24.4
Finland	71 077	69 855	75 835	63 197	59 029	–17.0
France	549 065	556 461	518 940	491 159	464 418	–15.4
Germany	1 246 101	1 041 064	939 372	943 520	900 202	–27.8
Greece	104 827	127 688	118 733	104 669	101 403	–3.3
Hungary[a, b]	109 636	73 557	65 524	57 554	57 225	–47.8
Iceland	3 634	3 963	4 730	4 535	4 597	26.5
Ireland	56 088	69 251	62 235	58 482	58 189	3.7
Italy	521 921	554 479	508 424	438 887	418 587	–19.8
Japan	1 270 743	1 386 714	1 304 903	1 407 883	1 363 862	7.3
Latvia[a]	26 256	10 434	12 362	11 415	11 353	–56.8
Liechtenstein	229	248	231	235	205	–10.5
Lithuania[a]	47 209	18 739	20 163	19 256	19 139	–59.5
Luxembourg	12 871	9 743	12 221	11 207	10 771	–16.3
Malta	2 000	2 626	3 099	2 954	2 983	49.1
Monaco						
Netherlands	221 516	219 916	213 523	194 825	186 845	–15.7
New Zealand	65 828	76 385	78 942	80 298	81 104	23.2
Norway	51 913	54 869	55 272	53 552	53 156	2.4
Poland[a, b]	579 869	392 276	403 599	393 092	380 038	–34.5
Portugal	60 487	83 798	70 232	64 751	64 395	6.5
Romania[a, b]	304 651	142 317	119 056	111 837	111 507	–63.4
Russian Federation[a]	3 940 191	2 432 751	2 772 489	2 815 190	2 812 310	–28.6
Slovakia[a]	74 272	49 712	46 483	42 792	40 658	–45.3
Slovenia[a, b]	20 394	19 126	19 619	18 314	16 582	–18.7
Spain	285 934	385 119	360 800	327 447	328 926	15.0
Sweden	71 917	68 869	64 997	55 940	54 383	–24.4
Switzerland	53 314	52 314	54 363	52 508	48 605	–8.8
Turkey[d]	207 773	296 811	395 283	438 820	467 550	125.0
Ukraine[a]	945 616	412 807	400 607	399 741	353 039	–62.7
United Kingdom	799 838	717 281	613 863	569 783	527 203	–34.1
United States	6 397 144	7 258 973	6 985 457	6 799 979	6 870 446	7.4
Number of Parties showing a decrease in emissions by more than 1 per cent:						*29*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*13*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 4

Total aggregate anthropogenic emissions of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, MIX and NF_3 with emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

	kt CO_2 eq					*Change from 1990*
Party	*1990*	*2000*	*2010*	*2013*	*2014*	*to 2014 (%)*
Australia	546 839	548 877	554 780	529 214	523 107	–4.3
Austria	65 992	63 512	78 421	74 841	70 774	7.2
Belarus[a]	109 074	51 714	66 137	71 302	76 264	–30.1
Belgium	143 679	147 474	129 283	115 364	109 847	–23.5
Bulgaria[a, b]	99 303	48 134	50 570	44 838	45 933	–53.7
Canada	525 677	662 625	761 036	701 792	804 212	53.0
Croatia[a]	24 557	17 038	20 122	17 301	16 384	–33.3
Cyprus	5 025	7 780	8 881	7 311	7 743	54.1
Czechia[a]	188 877	139 205	130 510	120 473	115 858	–38.7
Denmark	76 492	74 892	64 459	57 448	52 367	–31.5
Estonia[a]	31 839	18 017	14 572	21 028	20 482	–35.7
European Union[c]	5 403 843	4 845 604	4 453 449	4 142 068	3 970 032	–26.5
Finland	55 049	45 521	48 687	42 862	38 249	–30.5
France	518 484	523 702	480 170	437 630	413 772	–20.2
Germany	1 214 822	1 003 112	923 049	929 203	885 226	–27.1
Greece	102 548	125 803	115 473	101 521	98 167	–4.3
Hungary[a, b]	107 915	73 341	61 813	54 456	52 632	–51.2
Iceland	15 129	15 512	16 587	16 407	16 466	8.8
Ireland	62 310	75 658	67 495	63 420	63 411	1.8
Italy	515 851	535 489	474 065	408 063	391 972	–24.0
Japan	1 211 448	1 299 902	1 235 779	1 342 836	1 302 399	7.5
Latvia[a]	17 835	3 738	13 936	12 623	15 574	–12.7
Liechtenstein	234	256	246	246	217	–7.3
Lithuania[a]	43 639	9 791	9 303	9 654	11 030	–74.7
Luxembourg	12 923	9 041	12 068	10 669	10 310	–20.2
Malta	1 998	2 623	3 096	2 951	2 980	49.2
Monaco						
Netherlands	227 597	226 121	219 530	201 136	193 213	–15.1
New Zealand	36 901	45 947	49 676	55 258	56 690	53.6
Norway	41 442	31 297	29 401	27 209	27 715	–33.1
Poland[a, b]	563 876	358 861	370 991	352 232	347 534	–38.4
Portugal	62 235	77 794	58 827	56 266	54 096	–13.1
Romania[a, b]	288 324	119 499	100 559	93 604	93 249	–67.7
Russian Federation[a]	4 105 091	2 086 058	2 224 828	2 290 653	2 299 275	–44.0
Slovakia[a]	65 280	39 994	40 470	34 721	34 536	–47.1
Slovenia[a, b]	15 770	11 142	12 396	11 419	9 676	–38.6
Spain	260 568	350 456	327 451	295 338	297 426	14.1
Sweden	34 945	30 733	20 119	13 691	9 316	–73.3
Switzerland	52 430	57 223	52 266	50 691	47 656	–9.1
Turkey[d]	177 544	260 596	348 089	380 398	407 670	129.6
Ukraine[a]	899 589	371 767	369 138	385 188	340 125	–62.2
United Kingdom	800 089	714 359	606 053	561 157	518 237	–35.2
United States	5 659 192	6 575 954	6 219 033	6 040 395	6 107 976	7.9
Number of Parties showing a decrease in emissions by more than 1 per cent:						*31*

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*11*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 5

Total anthropogenic CO_2 emissions without emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	278 266	349 885	406 201	396 914	393 127	41.3
Austria	62 297	66 275	72 532	67 957	64 263	3.2
Belarus[a]	100 438	53 687	61 632	61 511	60 616	–39.6
Belgium	119 983	126 315	114 155	101 745	96 325	–19.7
Bulgaria[a, b]	87 956	45 041	47 588	42 480	45 083	–48.7
Canada	463 493	572 290	555 004	573 094	574 100	23.9
Croatia[a]	23 390	19 789	21 184	18 359	17 607	–24.7
Cyprus	4 663	7 140	8 005	6 449	6 878	47.5
Czechia[a]	161 668	125 848	115 771	106 491	101 154	–37.4
Denmark	54 306	54 149	48 993	41 537	37 461	–31.0
Estonia[a]	36 666	15 141	17 834	19 566	18 919	–48.4
European Union[c]	4 462 205	4 165 145	3 933 291	3 646 390	3 463 398	–22.4
Finland	56 951	56 973	63 828	51 835	47 598	–16.4
France	400 653	417 117	394 236	369 986	341 153	–14.9
Germany	1 050 959	899 204	832 220	835 746	792 859	–24.6
Greece	83 404	103 020	97 035	82 911	79 628	–4.5
Hungary[a, b]	85 194	58 337	52 109	43 931	43 573	–48.9
Iceland	2 106	2 729	3 384	3 302	3 272	55.4
Ireland	32 769	45 123	41 558	37 049	36 559	11.6
Italy	436 204	465 175	428 880	362 064	342 827	–21.4
Japan	1 155 994	1 274 298	1 212 970	1 311 509	1 265 491	9.5
Latvia[a]	19 697	7 070	8 528	7 332	7 139	–63.8
Liechtenstein	199	217	191	193	162	–18.7
Lithuania[a]	35 813	11 802	13 619	12 988	12 733	–64.4
Luxembourg	11 962	8 819	11 294	10 305	9 830	–17.8
Malta	1 860	2 414	2 691	2 476	2 484	33.5
Monaco						
Netherlands	162 498	172 060	182 530	165 476	157 790	–2.9
New Zealand	25 420	32 356	35 017	35 094	35 617	40.1
Norway	35 695	42 194	45 832	44 307	43 867	22.9
Poland[a, b]	473 955	319 120	334 026	322 440	310 307	–34.5
Portugal	45 175	65 764	52 430	47 482	47 215	4.5
Romania[a, b]	211 194	95 189	80 794	74 054	74 010	–65.0
Russian Federation[a]	2 590 118	1 504 543	1 662 961	1 667 036	1 671 942	–35.4
Slovakia[a]	61 838	41 155	38 386	35 395	33 387	–46.0
Slovenia[a, b]	16 663	15 460	16 363	15 149	13 490	–19.0
Spain	230 155	311 600	283 581	252 260	253 467	10.1

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Sweden	57 547	54 730	53 058	44 899	43 405	–24.6
Switzerland	44 116	43 546	45 027	43 182	39 265	–11.0
Turkey[d]	146 751	232 549	320 357	354 961	382 213	160.5
Ukraine[a]	693 025	271 430	287 114	287 436	247 561	–64.3
United Kingdom	596 398	561 281	507 596	475 832	434 795	–27.1
United States	5 115 095	5 992 438	5 688 756	5 502 551	5 556 007	8.6
Number of Parties showing a decrease in emissions by more than 1 per cent:						*28*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*14*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 6

Total anthropogenic CO_2 emissions with emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	388 184	398 921	410 549	385 760	380 036	–2.1
Austria	49 429	49 343	65 988	62 737	58 685	18.7
Belarus[a]	73 971	26 224	34 951	38 094	43 416	–41.3
Belgium	117 628	124 515	110 066	97 610	92 179	–21.6
Bulgaria[a, b]	72 612	34 619	38 241	32 287	33 744	–53.5
Canada	369 462	486 952	591 399	533 659	622 813	68.6
Croatia[a]	16 709	11 455	13 938	11 801	11 007	–34.1
Cyprus	4 049	6 571	7 363	5 797	6 226	53.8
Czechia[a]	155 063	116 937	108 425	98 497	93 276	–39.8
Denmark	60 511	58 825	50 322	43 775	38 770	–35.9
Estonia[a]	28 538	16 094	12 487	18 911	18 334	–35.8
European Union[c]	4 191 449	3 830 267	3 594 040	3 308 842	3 138 531	–25.1
Finland	38 118	30 012	34 433	29 324	24 642	–35.4
France	366 474	380 256	351 870	313 115	287 115	–21.7
Germany	1 017 974	859 579	814 220	819 721	776 170	–23.8
Greece	81 058	100 912	93 757	79 745	76 381	–5.8
Hungary[a, b]	83 427	58 030	48 338	40 769	38 907	–53.4
Iceland	9 800	10 449	11 366	11 289	11 252	14.8
Ireland	38 605	51 011	45 804	41 193	41 010	6.2
Italy	427 652	444 563	393 526	330 325	315 134	–26.3
Japan	1 096 387	1 187 205	1 143 603	1 246 223	1 203 768	9.8
Latvia[a]	10 391	–570	9 150	7 484	10 272	–1.1
Liechtenstein	203	225	205	204	173	–15.0
Lithuania[a]	31 799	2 529	2 400	3 017	4 234	–86.7
Luxembourg	12 009	8 113	11 138	9 764	9 367	–22.0
Malta	1 858	2 412	2 688	2 473	2 481	33.5
Monaco						
Netherlands	168 573	178 203	188 431	171 669	164 034	–2.7
New Zealand	–3 778	1 632	5 489	9 860	11 014	–391.5
Norway	24 770	18 126	19 431	17 434	17 897	–27.7
Poland[a, b]	457 907	285 649	301 345	281 497	277 704	–39.4

Party	kt CO_2 eq					Change from 1990
	1990	2000	2010	2013	2014	to 2014 (%)
Portugal [c]	46 178	59 126	40 510	38 477	36 557	–20.8
Romania[a, b]	193 626	70 645	60 455	53 977	53 908	–72.2
Russian Federation[a]	2 723 379	1 123 808	1 080 458	1 109 860	1 123 801	–58.7
Slovakia[a]	52 759	31 385	32 334	27 293	27 221	–48.4
Slovenia[a, b]	12 035	7 471	9 136	8 249	6 579	–45.3
Spain	204 351	276 258	249 818	219 787	221 501	8.4
Sweden	19 006	14 968	6 405	898	–3 451	–118.2
Switzerland	43 122	48 368	42 849	41 284	38 236	–11.3
Turkey[d]	116 521	196 334	273 163	296 540	322 333	176.6
Ukraine[a]	646 830	230 136	255 388	272 696	234 409	–63.8
United Kingdom	595 546	557 301	498 981	466 449	425 070	–28.6
United States	4 370 240	5 293 061	4 914 071	4 727 892	4 778 456	9.3
Number of Parties showing a decrease in emissions by more than 1 per cent:						*32*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*10*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 7

Total anthropogenic CH_4 emissions without emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990
	1990	2000	2010	2013	2014	to 2014 (%)
Australia	118 769	111 520	99 448	99 857	98 076	–17.4
Austria	10 599	8 466	7 183	6 757	6 623	–37.5
Belarus[a]	17 944	12 923	17 109	18 724	18 599	3.6
Belgium	12 040	10 827	8 625	8 098	8 048	–33.2
Bulgaria[a, b]	16 619	9 219	7 539	7 362	7 326	–55.9
Canada	95 378	120 725	103 730	107 063	108 437	13.7
Croatia[a]	3 771	2 785	3 244	3 130	3 080	–18.3
Cyprus	664	815	893	860	864	30.1
Czechia[a]	22 446	14 430	13 655	13 129	13 239	–41.0
Denmark	8 083	8 355	7 787	7 381	7 363	–8.9
Estonia[a]	1 912	1 237	1 183	1 133	1 102	–42.4
European Union[c]	734 491	609 441	484 705	458 526	452 696	–38.4
Finland	7 745	6 661	5 487	5 123	5 017	–35.2
France	68 916	70 805	62 526	59 044	59 762	–13.3
Germany	117 567	86 188	57 123	56 112	54 752	–53.4
Greece	12 645	12 934	11 647	11 260	11 191	–11.5
Hungary[a, b]	12 660	8 958	8 037	7 619	7 614	–39.9
Iceland	522	559	584	546	592	13.6
Ireland	14 882	14 532	12 633	13 225	13 433	–9.7
Italy	54 531	55 515	47 942	44 074	43 252	–20.7
Japan	48 582	41 474	38 272	36 066	35 482	–27.0
Latvia[a]	3 671	1 923	1 950	2 010	2 082	–43.3
Liechtenstein	19	17	19	19	21	9.3
Lithuania[a]	6 906	3 715	3 648	3 387	3 442	–50.2

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Luxembourg	620	605	597	563	570	–8.0
Malta	78	130	197	189	197	151.0
Monaco						
Netherlands	32 906	25 342	19 991	19 167	18 772	–43.0
New Zealand	32 158	35 269	34 058	34 616	34 813	8.3
Norway	6 024	5 954	5 499	5 313	5 340	–11.4
Poland[a, b]	76 734	49 403	43 166	42 357	41 330	–46.1
Portugal	11 321	13 316	12 681	12 135	11 961	5.7
Romania[a, b]	71 154	36 205	29 683	29 124	29 032	–59.2
Russian Federation[a]	1 114 636	792 249	996 955	1 028 388	1 022 151	–8.3
Slovakia[a]	7 121	5 423	4 708	4 556	4 363	–38.7
Slovenia[a, b]	2 556	2 459	2 188	2 080	1 979	–22.6
Spain	31 750	38 018	38 949	38 085	38 166	20.2
Sweden	7 990	7 192	5 688	5 278	5 158	–35.4
Switzerland	6 091	5 392	5 274	5 097	5 097	–16.3
Turkey[d]	43 820	44 822	51 415	56 177	57 138	30.4
Ukraine[a]	198 026	117 374	84 804	75 256	69 054	–65.1
United Kingdom	137 608	114 951	66 695	56 196	53 891	–60.8
United States	773 855	717 474	722 411	721 475	730 829	–5.6
Number of Parties showing a decrease in emissions by more than 1 per cent:						*32*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*10*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 8

Total anthropogenic CH_4 emissions with emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	130 782	122 621	109 287	109 025	107 688	–17.7
Austria	10 599	8 466	7 183	6 758	6 623	–37.5
Belarus[a]	17 953	12 932	17 115	18 730	18 606	3.6
Belgium	12 041	10 827	8 625	8 098	8 048	–33.2
Bulgaria[a, b]	16 620	9 354	7 555	7 369	7 328	–55.9
Canada	99 996	123 301	115 913	113 655	123 872	23.9
Croatia[a]	3 772	2 882	3 245	3 132	3 081	–18.3
Cyprus	664	820	893	861	865	30.2
Czechia[a]	22 563	14 538	13 805	13 195	13 312	–41.0
Denmark	8 098	8 414	7 946	7 577	7 605	–6.1
Estonia[a]	1 913	1 239	1 183	1 133	1 102	–42.4
European Union[c]	741 230	616 454	490 147	463 427	457 775	–38.2
Finland	9 284	8 011	6 467	6 044	5 938	–36.0
France	69 851	72 413	63 697	60 077	60 827	–12.9
Germany	118 443	87 059	57 991	56 978	55 617	–53.0
Greece	12 707	13 140	11 664	11 276	11 201	–11.9
Hungary[a, b]	12 685	8 984	8 046	7 630	7 631	–39.8

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Iceland	2 896	2 905	2 856	2 804	2 847	–1.7
Ireland	15 124	14 829	13 258	13 672	13 859	–8.4
Italy	56 201	56 466	48 302	44 270	43 587	–22.4
Japan	48 655	41 541	38 332	36 123	35 558	–26.9
Latvia[a]	3 979	2 269	2 263	2 377	2 471	–37.9
Liechtenstein	19	17	19	19	21	9.3
Lithuania[a]	6 909	3 719	3 649	3 388	3 445	–50.1
Luxembourg	620	605	597	563	570	–8.0
Malta	78	130	197	189	197	151.0
Monaco						
Netherlands	32 906	25 342	19 991	19 167	18 772	–43.0
New Zealand	32 251	35 355	34 170	34 682	34 888	8.2
Norway	6 168	6 101	5 650	5 462	5 490	–11.0
Poland[a, b]	76 779	49 435	43 198	42 394	41 365	–46.1
Portugal	11 525	13 500	12 832	12 290	11 977	3.9
Romania[a, b]	71 154	36 209	29 683	29 125	29 033	–59.2
Russian Federation[a]	1 135 819	812 566	1 019 746	1 049 362	1 044 906	–8.0
Slovakia[a]	7 129	5 434	4 722	4 565	4 380	–38.6
Slovenia[a, b]	2 556	2 460	2 188	2 081	1 979	–22.6
Spain	31 955	38 238	39 018	38 152	38 289	19.8
Sweden	8 450	7 655	6 157	5 754	5 664	–33.0
Switzerland	6 116	5 404	5 285	5 108	5 108	–16.5
Turkey[d]	43 820	44 822	51 415	56 177	57 138	30.4
Ukraine[a]	198 037	117 380	84 835	75 258	69 088	–65.1
United Kingdom	137 626	114 985	66 729	56 221	53 922	–60.8
United States	777 142	725 802	725 690	728 825	738 179	–5.0
Number of Parties showing a decrease in emissions by more than 1 per cent:						*33*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*9*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 9

Total anthropogenic N_2O emissions without emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	15 346	18 949	19 698	19 756	20 085	30.9
Austria	4 293	4 302	3 330	3 361	3 427	–20.2
Belarus[a]	15 075	11 350	12 440	12 799	12 678	–15.9
Belgium	10 232	10 353	7 760	6 281	6 279	–38.6
Bulgaria[a, b]	10 000	3 973	4 081	4 186	3 755	–62.5
Canada	42 240	39 936	37 892	40 647	39 407	–6.7
Croatia[a]	2 793	2 388	2 300	1 697	1 621	–41.9
Cyprus	311	364	378	329	332	6.7
Czechia[a]	11 145	7 397	6 183	6 045	6 324	–43.3
Denmark	7 814	6 837	5 137	5 114	5 085	–34.9

Party	kt CO_2 eq					Change from 1990
	1990	2000	2010	2013	2014	to 2014 (%)
Estonia[a]	1 387	601	718	769	820	–40.9
European Union[c]	388 663	309 753	244 135	237 361	239 890	–38.3
Finland	6 329	5 622	4 677	4 589	4 626	–26.9
France	67 665	56 512	43 317	41 715	43 031	–36.4
Germany	64 409	42 584	36 295	37 364	38 038	–40.9
Greece	7 403	6 346	5 527	4 670	4 686	–36.7
Hungary[a, b]	11 404	5 621	4 055	4 599	4 504	–60.5
Iceland	510	481	438	426	468	–8.2
Ireland	8 402	8 640	7 032	7 085	6 985	–16.9
Italy	27 427	29 717	19 946	19 100	18 585	–32.2
Japan	30 812	28 999	22 312	21 478	20 848	–32.3
Latvia[a]	2 888	1 420	1 712	1 859	1 912	–33.8
Liechtenstein	11	10	10	10	10	–7.0
Lithuania[a]	4 490	3 199	2 631	2 470	2 509	–44.1
Luxembourg	289	288	270	269	296	2.5
Malta	61	76	65	68	68	11.0
Monaco						
Netherlands	17 637	15 639	8 050	7 685	7 815	–55.7
New Zealand	7 327	8 429	8 638	9 003	9 066	23.7
Norway	4 201	3 929	2 566	2 535	2 527	–39.8
Poland[a, b]	29 032	22 272	19 571	20 140	19 746	–32.0
Portugal	3 991	4 412	3 562	3 344	3 413	–14.5
Romania[a, b]	18 416	9 344	7 526	7 297	7 033	–61.8
Russian Federation[a]	183 230	98 830	94 881	89 934	90 171	–50.8
Slovakia[a]	4 998	3 022	2 815	2 274	2 336	–53.3
Slovenia[a, b]	933	1 012	776	752	759	–18.6
Spain	19 761	23 386	19 729	18 914	19 967	1.0
Sweden	5 841	5 919	5 054	4 832	4 884	–16.4
Switzerland	2 854	2 556	2 512	2 412	2 439	–14.5
Turkey[d]	16 510	18 425	19 621	23 211	23 283	41.0
Ukraine[a]	54 329	23 868	27 914	36 167	35 573	–34.5
United Kingdom	48 509	28 749	21 883	20 778	21 349	–56.0
United States	406 229	401 400	410 314	403 350	403 501	–0.7
Number of Parties showing a decrease in emissions by more than 1 per cent:						*34*
Number of Parties showing a change in emissions within 1 per cent:						*1*
Number of Parties showing an increase in emissions by more than 1 per cent:						*7*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 10
Total anthropogenic N_2O emissions with emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

	kt CO_2 eq					*Change from 1990*
Party	*1990*	*2000*	*2010*	*2013*	*2014*	*to 2014 (%)*
Australia	21 630	24 244	26 373	24 075	24 274	12.2
Austria	4 308	4 316	3 348	3 380	3 446	–20.0
Belarus[a]	17 150	12 558	14 069	14 475	14 238	–17.0
Belgium	10 245	10 414	7 874	6 405	6 406	–37.5
Bulgaria[a, b]	10 068	4 129	4 161	4 263	3 828	–62.0
Canada	44 464	41 082	43 946	43 858	47 052	5.8
Croatia[a]	2 825	2 490	2 386	1 784	1 706	–39.6
Cyprus	311	368	378	329	332	6.8
Czechia[a]	11 166	7 413	6 201	6 056	6 336	–43.3
Denmark	7 841	6 864	5 164	5 143	5 114	–34.8
Estonia[a]	1 388	603	725	776	827	–40.4
European Union[c]	400 020	321 554	255 864	248 999	251 657	–37.1
Finland	7 594	6 900	5 943	5 843	5 880	–22.6
France	70 328	59 005	45 741	44 025	45 359	–35.5
Germany	65 239	43 385	37 103	38 205	38 885	–40.4
Greece	7 408	6 363	5 528	4 672	4 687	–36.7
Hungary[a, b]	11 425	5 687	4 106	4 651	4 559	–60.1
Iceland	1 938	1 964	2 039	2 053	2 102	8.5
Ireland	8 546	8 863	7 421	7 433	7 330	–14.2
Italy	28 239	30 388	20 581	19 818	19 328	–31.6
Japan	31 051	29 214	22 496	21 658	21 031	–32.3
Latvia[a]	3 465	2 019	2 351	2 550	2 609	–24.7
Liechtenstein	11	11	11	11	11	–5.6
Lithuania[a]	4 931	3 520	2 989	2 838	2 895	–41.3
Luxembourg	293	293	274	272	299	1.9
Malta	61	76	65	68	68	11.0
Monaco						
Netherlands	17 642	15 701	8 156	7 802	7 938	–55.0
New Zealand	7 504	8 629	8 788	9 131	9 179	22.3
Norway	4 511	4 276	2 945	2 916	2 908	–35.5
Poland[a, b]	29 044	22 295	19 612	20 188	19 811	–31.8
Portugal	4 532	4 861	3 925	3 709	3 757	–17.1
Romania[a, b]	19 657	11 067	9 369	9 140	8 876	–54.8
Russian Federation[a]	193 686	112 555	106 932	101 599	102 521	–47.1
Slovakia[a]	5 077	3 062	2 840	2 296	2 363	–53.5
Slovenia[a, b]	936	1 016	780	756	763	–18.5
Spain	19 993	23 846	20 074	19 210	20 308	1.6
Sweden	6 949	7 083	6 360	6 108	6 167	–11.3
Switzerland	2 939	2 632	2 582	2 481	2 508	–14.7
Turkey[d]	16 510	18 425	19 621	23 211	23 283	41.0
Ukraine[a]	54 486	24 114	28 138	36 353	35 777	–34.3
United Kingdom	49 594	29 773	22 653	21 508	22 075	–55.5
United States	409 844	409 431	415 295	411 075	411 231	0.3
Number of Parties showing a decrease in emissions by more than 1 per cent:						*32*
Number of Parties showing a change in emissions within 1 per cent:						*1*
Number of Parties showing an increase in emissions by more than 1 per cent:						*9*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 11

Total aggregate anthropogenic emissions of HFCs, PFCs, SF_6, MIX and NF_3, 1990, 2000, 2010, 2013 and 2014

	kt CO_2 eq					*Change from 1990*
Party	*1990*	*2000*	*2010*	*2013*	*2014*	*to 2014 (%)*
Australia	6 243	3 091	8 570	10 355	11 109	78.0
Austria	1 656	1 387	1 901	1 966	2 019	22.0
Belarus[a]	0.00	0.10	2.10	2.51	2.43	
Belgium	3 766	1 718	2 719	3 252	3 215	–14.6
Bulgaria[a, b]	3	32	613	918	1 033	
Canada	11 755	11 289	9 777	10 620	10 475	–10.9
Croatia[a]	1 251	211	553	584	590	–52.9
Cyprus	0	21	246	324	320	
Czechia[a]	85	317	2 078	2 725	2 934	3 343.2
Denmark	42	789	1 027	952	877	1 968.1
Estonia[a]	0	82	177	208	219	
European Union[c]	71 144	77 329	113 398	120 801	122 069	71.6
Finland	53	599	1 843	1 650	1 788	3 291.5
France	11 831	12 028	18 861	20 414	20 472	73.0
Germany	13 167	13 088	13 735	14 298	14 553	10.5
Greece	1 376	5 388	4 524	5 828	5 898	328.6
Hungary[a, b]	377	641	1 323	1 405	1 534	306.7
Iceland	496	194	325	261	264	–46.7
Ireland	35	955	1 012	1 123	1 212	3 339.0
Italy	3 758	4 073	11 656	13 650	13 924	270.5
Japan	35 355	41 942	31 348	38 830	42 042	18.9
Latvia[a]	0	21	172	213	221	
Liechtenstein	0	4	10	12	12	
Lithuania[a]	0	23	266	412	456	
Luxembourg	1	31	59	69	75	8 403.8
Malta	0	5	146	221	234	
Monaco						
Netherlands	8 476	6 875	2 952	2 498	2 469	–70.9
New Zealand	924	330	1 229	1 585	1 608	74.0
Norway	5 993	2 793	1 375	1 397	1 421	–76.3
Poland[a, b]	147	1 481	6 835	8 154	8 654	5 776.5
Portugal	0	307	1 560	1 790	1 806	
Romania[a, b]	3 887	1 579	1 052	1 362	1 431	–63.2
Russian Federation[a]	52 207	37 129	17 692	29 832	28 046	–46.3
Slovakia[a]	315	113	574	567	571	81.4
Slovenia[a, b]	243	195	292	333	355	45.9
Spain	4 268	12 114	18 540	18 189	17 327	306.0
Sweden	540	1 027	1 198	931	935	73.2
Switzerland	254	820	1 550	1 818	1 804	611.6
Turkey[d]	693	1 015	3 890	4 470	4 917	609.7
Ukraine[a]	236	136	775	881	851	260.9
United Kingdom	17 322	12 300	17 690	16 978	17 169	–0.9
United States	101 966	147 661	163 976	172 604	180 109	76.6
Number of Parties showing a decrease in emissions by more than 1 per cent:						*8*
Number of Parties showing a change in emissions within 1 per cent:						*1*

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Number of Parties showing an increase in emissions by more than 1 per cent:						*24*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 12

Net anthropogenic CO_2 emissions/removals from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	109 918	49 035	4 348	–11 154	–13 091	–111.9
Austria	–12 868	–16 932	–6 543	–5 220	–5 577	–56.7
Belarus[a]	–26 467	–27 463	–26 681	–23 417	–17 199	–35.0
Belgium	–2 355	–1 801	–4 090	–4 135	–4 147	76.1
Bulgaria[a, b]	–15 344	–10 422	–9 346	–10 193	–11 339	–26.1
Canada	–94 032	–85 338	36 396	–39 435	48 713	–151.8
Croatia[a]	–6 681	–8 334	–7 246	–6 558	–6 600	–1.2
Cyprus	–614	–568	–641	–652	–652	6.2
Czechia[a]	–6 606	–8 911	–7 345	–7 994	–7 878	19.3
Denmark	6 205	4 676	1 329	2 238	1 309	–78.9
Estonia[a]	–8 128	952	–5 346	–656	–584	–92.8
European Union[c]	–270 756	–334 879	–339 251	–337 548	–324 866	20.0
Finland	–18 833	–26 961	–29 395	–22 511	–22 956	21.9
France	–34 178	–36 860	–42 365	–56 871	–54 038	58.1
Germany	–32 985	–39 625	–18 000	–16 025	–16 689	–49.4
Greece	–2 346	–2 107	–3 278	–3 166	–3 247	38.4
Hungary[a, b]	–1 767	–307	–3 771	–3 162	–4 666	164.1
Iceland	7 694	7 720	7 983	7 987	7 980	3.7
Ireland	5 837	5 888	4 246	4 143	4 451	–23.7
Italy	–8 552	–20 612	–35 354	–31 739	–27 693	223.8
Japan	–59 607	–87 093	–69 367	–65 286	–61 722	3.5
Latvia[a]	–9 305	–7 640	622	152	3 133	–133.7
Liechtenstein	4	8	14	11	11	160.2
Lithuania[a]	–4 014	–9 273	–11 219	–9 971	–8 499	111.7
Luxembourg	48	–706	–157	–542	–463	–1 075.0
Malta	–2.57	–2.65	–2.83	–2.87	–2.83	10.0
Monaco						
Netherlands	6 075	6 143	5 901	6 193	6 245	2.8
New Zealand	–29 198	–30 724	–29 528	–25 234	–24 602	–15.7
Norway	–10 925	–24 067	–26 401	–26 873	–25 971	137.7
Poland[a, b]	–16 048	–33 471	–32 681	–40 944	–32 603	103.2
Portugal	1 003	–6 638	–11 920	–9 005	–10 658	–1 162.7
Romania[a, b]	–17 568	–24 544	–20 340	–20 077	–20 102	14.4
Russian Federation[a]	133 261	–380 735	–582 503	–557 176	–548 140	–511.3
Slovakia[a]	–9 078	–9 770	–6 052	–8 102	–6 166	–32.1
Slovenia[a, b]	–4 628	–7 989	–7 228	–6 899	–6 911	49.3
Spain	–25 804	–35 342	–33 763	–32 472	–31 965	23.9
Sweden	–38 540	–39 763	–46 653	–44 001	–46 856	21.6

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Switzerland	–994	4 822	–2 178	–1 897	–1 029	3.6
Turkey[d]	–30 229	–36 215	–47 193	–58 421	–59 880	98.1
Ukraine[a]	–46 195	–41 293	–31 725	–14 741	–13 152	–71.5
United Kingdom	–853	–3 980	–8 614	–9 383	–9 725	1 040.5
United States	–744 855	–699 377	–774 685	–774 659	–777 550	4.4
Number of Parties showing a decrease in emissions by more than 1 per cent:						*17*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*25*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 13

Anthropogenic CH_4 emissions from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	12 013	11 101	9 840	9 167	9 612	–20.0
Austria	0.47	0.10	0.11	0.21	0.13	–72.0
Belarus[a]	8.43	9.72	5.73	5.72	7.28	–13.7
Belgium	1	0				
Bulgaria[a, b]	1.07	134.73	15.19	7.72	2.15	100.1
Canada	4 618	2 577	12 183	6 592	15 435	234.3
Croatia[a]	1.23	96.91	1.76	1.93	0.25	–79.6
Cyprus	0.04	5.71	0.74	0.22	0.24	482.1
Czechia[a]	117	108	150	66	73	–37.5
Denmark	15	59	159	196	242	1 500.8
Estonia[a]	0.35	1.41	0.13	0.08	0.11	–67.0
European Union[c]	6 739	7 013	5 442	4 901	5 079	–24.6
Finland	1 539	1 350	980	922	922	–40.1
France	934	1 609	1 171	1 032	1 065	14.0
Germany	876	871	868	866	865	–1.2
Greece	62	206	16	16	9	–84.9
Hungary[a, b]	25	26	9	12	17	–30.4
Iceland	2 374	2 346	2 272	2 258	2 254	–5.1
Ireland	242	297	625	447	425	75.5
Italy	1 671	951	360	196	335	–80.0
Japan	73	67	60	58	76	4.5
Latvia[a]	308	346	314	367	389	26.5
Liechtenstein						
Lithuania[a]	2.88	3.93	1.24	0.80	2.95	2.5
Luxembourg						
Malta						
Monaco						
Netherlands	0.20	0.24	0.27	0.28	0.28	40.7
New Zealand	93	86	113	66	75	–19.3
Norway	144	148	151	150	150	4.8
Poland[a, b]	44	33	32	37	35	–20.1

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Portugal	204	185	152	154	16	–92.1
Romania[a, b]	0.09	3.33	0.19	1.26	1.10	1 179.2
Russian Federation[a]	21 183	20 317	22 792	20 974	22 755	7.4
Slovakia[a]	7	11	15	9	17	130.5
Slovenia[a, b]		0.90	0.48	0.46	0.13	
Spain	205	220	69	66	123	–40.0
Sweden	461	462	469	476	506	9.9
Switzerland	24	11	11	11	11	–53.9
Turkey[d]	0.03	0.06	0.01	0.03	0.01	–72.9
Ukraine[a]	11	7	31	2	34	203.9
United Kingdom	18	34	34	26	31	73.9
United States	3 287	8 328	3 280	7 350	7 350	123.6
Number of Parties showing a decrease in emissions by more than 1 per cent:						*19*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*18*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 14

Anthropogenic N_2O emissions from land use, land-use change and forestry, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia	6 285	5 295	6 674	4 318	4 189	–33.3
Austria	15	14	18	19	19	23.8
Belarus[a]	2 075	1 207	1 629	1 676	1 560	–24.8
Belgium	12	62	114	124	127	939.1
Bulgaria[a, b]	68	156	81	77	73	8.1
Canada	2 225	1 146	6 054	3 211	7 645	243.7
Croatia[a]	32	102	85	86	85	166.5
Cyprus	0.03	3.76	0.49	0.15	0.16	482.1
Czechia[a]	21	15	18	12	12	–40.7
Denmark	27	26	27	29	30	11.6
Estonia[a]	1.51	1.69	6.86	7.32	7.37	387.9
European Union[c]	11 357	11 801	11 729	11 637	11 766	3.6
Finland	1 266	1 278	1 267	1 254	1 254	–0.9
France	2 663	2 492	2 425	2 309	2 327	–12.6
Germany	830	801	809	841	847	2.0
Greece	5.10	16.87	1.35	1.33	0.80	–84.4
Hungary[a, b]	21	66	51	52	55	159.6
Iceland	1 428	1 484	1 602	1 627	1 634	14.5
Ireland	144	222	389	348	345	140.3
Italy	812	671	635	718	743	–8.5
Japan	239	215	184	181	183	–23.6
Latvia[a]	576	598	640	691	698	21.1
Liechtenstein	0.31	0.35	0.43	0.46	0.45	44.2
Lithuania[a]	441	321	358	368	387	–12.3

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Luxembourg	4.62	4.57	3.62	3.03	2.83	–38.7
Malta						
Monaco						
Netherlands	6	62	106	117	123	2 033.1
New Zealand	177	200	149	128	113	–36.4
Norway	310	347	379	381	380	22.5
Poland[a, b]	11	24	41	48	65	471.8
Portugal	541	449	364	366	344	–36.4
Romania[a, b]	1 241	1 723	1 843	1 843	1 843	48.5
Russian Federation[a]	10 457	13 724	12 050	11 665	12 350	18.1
Slovakia[a]	80	40	25	22	28	–65.5
Slovenia[a, b]	3.31	3.81	4.19	4.09	4.02	21.4
Spain	232	460	345	297	342	47.2
Sweden	1 108	1 164	1 306	1 276	1 283	15.8
Switzerland	85	76	70	70	69	–19.4
Turkey[d]	0.02	0.04	0.01	0.02	0.01	–72.9
Ukraine[a]	157	246	225	186	204	29.8
United Kingdom	1 085	1 023	770	731	727	–33.0
United States	3 615	8 031	4 981	7 725	7 730	113.8
Number of Parties showing a decrease in emissions by more than 1 per cent:						*15*
Number of Parties showing a change in emissions within 1 per cent:						*1*
Number of Parties showing an increase in emissions by more than 1 per cent:						*25*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.

Table 15
Indirect CO_2 emissions, 1990, 2000, 2010, 2013 and 2014

Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Australia						
Austria						
Belarus[a]						
Belgium						
Bulgaria[a, b]						
Canada	4 042	1 750	11 775	5 999	14 753	265.0
Croatia[a]						
Cyprus						
Czechia[a]	3 917	2 905	2 489	2 347	2 234	–43.0
Denmark	1 225	877	556	451	421	–65.6
Estonia[a]						
European Union	8 342	6 300	4 619	4 295	4 105	–50.8
Finland	262	154	96	80	76	–70.9
France	1 992	1 755	1 033	993	952	–52.2
Germany						
Greece						
Hungary[a, b]						
Iceland						

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Party	kt CO_2 eq					Change from 1990 to 2014 (%)
	1990	2000	2010	2013	2014	
Ireland	81	74	64	65	65	–20.1
Italy						
Japan						
Latvia[a]	43	26	16	15	20	–53.5
Liechtenstein						
Lithuania[a]						
Luxembourg						
Malta						
Monaco						
Netherlands	666	335	237	214	211	–68.3
New Zealand						
Norway						
Poland[a, b]						
Portugal	157	176	132	133	128	–18.8
Romania[a, b]						
Russian Federation[a]						
Slovakia[a]						
Slovenia[a, b]						
Spain						
Sweden						
Switzerland	418	190	125	121	121	–71.1
Turkey[d]						
Ukraine[a]						
United Kingdom						
United States						
Number of Parties showing a decrease in emissions by more than 1 per cent:						*10*
Number of Parties showing a change in emissions within 1 per cent:						*0*
Number of Parties showing an increase in emissions by more than 1 per cent:						*1*

[a] A Party with an economy in transition.

[b] Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986)) are used for this Party instead of 1990 data.

[c] Emission estimates of the European Union are as reported for its 28 member States as a group and are reported separately from those of each individual member State.

[d] Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place it in a situation different from that of other Parties included in Annex I to the Convention.